Following a pulmonary embolism (blood clot in the lungs), approximately 30% of patients develop persistent and debilitating shortness of breath during physical activity. The underlying physiological causes of activity-related shortness of breath in this patient population are unclear. The current study by Milne and colleagues (Dr. Phillips senior author) determined if an abnormally high neural drive to breathe was linked to activity-related breathlessness in patients' post-pulmonary embolism (commonly termed post-PE).

Fourteen patients with post-PE shortness of breath completed a detailed neurophysiological assessment during a standardized exercise test on a stationary bicycle. The neural drive to breathe was assessed using electromyography of the diaphragm (the primary muscle of breathing).

In patients post-PE, the neural drive to breathe was greater during exercise, compared with healthy control participants, who were carefully matched by age, sex, and body mass index. Additionally, the increased neural drive to breathe was closely linked to the heightened shortness of breath during exercise. The findings from this study provide novel physiological evidence to explain the increased shortness of breath in patients post-PE. Dr. Phillips' current work seeks to find potential therapies to alleviate this debilitating symptom in patients post-PE.